The first and most important decision is whether there is enough airflow for the air bearing skis. If the calculated airflow is too high, then wheels or maglev are the only options.

Cooling is necessary, because the vacuum has virtually no heat transfer. So all the systems that produce heat must be cooled

Steam (water vapour) in the tube would increase the speed of sound, decrease the pod Mach No, and allow ejected steam cooling

A deep vacuum of 1 Pa instead of Alpha's 100 Pa would double the pumping cost, but reduce aerodynamic drag by 100 times. Ejected steam cooling needs moderate vacuum.

The gas flow over the pod cannot exceed Mach 1, so compression is used to get the required mass flow over or thru the pod. The use of steam reduces the pod Mach No, and reduces the compression energy.

Linear motors can have an active track with the power supplied to the tube. Or they can have an active rotor, with the power supplied to the pod

The linear motor track is high cost, so it is restricted to short sections with high acceleration. Wheels can have traction for the full length of the route.

With wheels or an active rotor linear motor, the power consumption of the pod could be too high for batteries.

Alpha showed a flat-sided pod, but this would increase the stiffening and increase the overall pod size. All pressurised aircraft are round.

Doors on the side of the pod are more convenient. but increase the pod size and airlock power. A door at one end saves airlock pumping energy.

A pair of drive-thru airlocks requires high pumping energy, increasing total trip energy by 50%. A single in-out airlock needs less. but the pod must reverse.

> Just a few of the possible options

